

Exhibit "B" - Pending claims after response filed to March 9, 2001 final office action:

1 1. (Twice Amended) In a wireless telecommunications system having a Base
2 Transceiver Station (BTS) and a mobile terminal equipped with an integrated Global Positioning
3 System (GPS) equipped receiver, the Base Transceiver Station having operational control of the
4 GPS-equipped mobile terminal, a method for determining the approximate position of the GPS-
5 equipped mobile terminal, said method comprising the steps of:

6 demodulating signals received from a multiplicity of GPS satellites at a reference GPS
7 receiver, said reference GPS receiver being connected to the wireless telecommunications system
8 and having a determinate physical location relative to the Base Transceiver Station;

9 recovering respective navigational data signals from each of said demodulated GPS
10 signals;

11 originating a request for approximate navigational information from the GPS-
12 equipped mobile terminal to the Base Transceiver Station;

13 transmitting recovered navigational data signals to the GPS-equipped mobile terminal
14 responsive to said request for approximate navigational information; and

15 determining, from said transmitted navigational data signals, the approximate location
16 of the GPS-equipped mobile terminal;

17 wherein the GPS satellite signals comprise one of:

18 Standard Positioning Service (SPS) signals received on an L1 frequency, said
19 L1 frequency being centered at about 1575.42 MHz; or

20 Precise Positioning Service (PPS) signals received on an L2 frequency, said
21 L2 frequency being centered at about 1227.60 MHz.

1 4. The method according to Claim 1, wherein said approximate navigational information
2 comprises the identities of a plurality of GPS satellites within ranging distance, the orbital
3 parameters associated with said plurality of GPS satellites, clock correction information and
4 differential correction information associated with said plurality of GPS satellites.

1 5. The method according to Claim 1, wherein said step of originating said request for
2 approximate locational information from the GPS-equipped mobile terminal to the Base Transceiver
3 Station is responsive to activation of the mobile terminal.

1 6. The method according to Claim 1, wherein said step of originating said request for
2 approximate locational information from the GPS-equipped mobile terminal to the Base Transceiver
3 Station is responsive to placing a call from the GPS-equipped mobile terminal to one of a set of
4 designated numbers.

1 7. The method according to Claim 6, wherein said one designated number is associated
2 with an emergency service.

1 8. In a wireless telecommunications system having a Base Transceiver Station (BTS)
2 and a mobile terminal equipped with an integrated Global Positioning System (GPS) equipped
3 receiver, the Base Transceiver Station having operational control of the GPS-equipped mobile
4 terminal, a method for determining the approximate position of the GPS-equipped mobile terminal,
5 said method comprising the steps of:

6 demodulating signals received from a multiplicity of GPS satellites at a reference GPS
7 receiver, said reference GPS receiver being connected to the wireless telecommunications system
8 and having a determinate physical location relative to the Base Transceiver Station;

9 recovering respective navigational data signals from each of said demodulated GPS
10 signals;

11 determining whether the GPS signal strength at the GPS-equipped mobile terminal
12 is adequate to permit initialization of the reference GPS receiver associated with the GPS-equipped
13 mobile terminal within a desired response time;

14 if not, originating a request for approximate navigational information from the GPS-
15 equipped mobile terminal to the Base Transceiver Station;

16 transmitting recovered navigational data signals to the GPS-equipped mobile terminal
17 responsive to said request for approximate navigational information; and

18 determining, from said transmitted navigational data signals, the approximate location
19 of the GPS-equipped mobile terminal.

1 9. (Amended) In a wireless telecommunications system having a Base Transceiver
2 Station (BTS) and a mobile terminal equipped with an integrated Global Positioning System (GPS)
3 equipped receiver, the Base Transceiver Station having operational control of the GPS-equipped
4 mobile terminal, a method for determining the approximate position of the GPS-equipped mobile
5 terminal, said method comprising the steps of:

6 demodulating signals received from a multiplicity of GPS satellites at a reference GPS
7 receiver, said reference GPS receiver being connected to the wireless telecommunications system
8 and having a determinate physical location relative to the Base Transceiver Station;

9 recovering respective navigational data signals from each of said demodulated GPS
10 signals;

11 originating a request for approximate navigational information from the GPS-
12 equipped mobile terminal to the Base Transceiver Station;

13 transmitting recovered navigational data signals to the GPS-equipped mobile terminal
14 responsive to said request for approximate navigational information; and

15 determining, from said transmitted navigational data signals, the approximate location
16 of the GPS-equipped mobile terminal;

17 wherein said step of transmitting is performed via one of:

18 a Cell Broadcast (CB) Short Message Service (SMS) message of the wireless
19 telecommunications system; or

20 a Broadcast Control Channel (BCCH) of the wireless telecommunications
21 system.

1 11. (Amended) In a wireless telecommunications system having a Base Transceiver
2 Station (BTS) and a mobile terminal equipped with an integrated Global Positioning System (GPS)
3 equipped receiver, the Base Transceiver Station having operational control of the GPS-equipped
4 mobile terminal, a method for determining the approximate position of the GPS-equipped mobile
5 terminal, said method comprising the steps of:

6 demodulating signals received from a multiplicity of GPS satellites at a reference GPS
7 receiver, said reference GPS receiver being connected to the wireless telecommunications system
8 and having a determinate physical location relative to the Base Transceiver Station;

9 recovering respective navigational data signals from each of said demodulated GPS
10 signals;

11 originating a request for approximate navigational information from the GPS-
12 equipped mobile terminal to the Base Transceiver Station;

13 transmitting recovered navigational data signals to the GPS-equipped mobile terminal
14 responsive to said request for approximate navigational information;

15 determining, from said transmitted navigational data signals, the approximate location
16 of the GPS-equipped mobile terminal

17 periodically transmitting a Timing Advance parameter from the Base

18 Transceiver Station to the GPS-equipped mobile terminal to dynamically compensate for varying
19 distances between the GPS-equipped mobile terminal and the Base Transceiver Station; and
20 refining said approximate location of the GPS-equipped mobile terminal using said
21 Timing Advance parameter.

1 13. (Twice Amended) In a wireless telecommunications system having a Base
2 Transceiver Station and a mobile terminal equipped with an integrated Global Positioning System
3 (GPS) receiver, the Base Transceiver Station having operational control of the GPS-equipped mobile
4 terminal, a method for determining the approximate position of the GPS-equipped mobile terminal,
5 said method comprising the steps of:

6 demodulating signals received from a multiplicity of GPS satellites at a reference GPS
7 receiver, said reference GPS receiver being connected to the wireless telecommunications system
8 and having a determinate physical location relative to the Base Transceiver Station;

9 computing an estimated location of said reference GPS receiver using said
10 demodulated signals from said GPS satellites;

11 originating a request for approximate locational information from the GPS-equipped
12 mobile terminal to the Base Transceiver Station;

13 transmitting said estimated location of said reference GPS receiver from the Base
14 Transceiver Station to the GPS-equipped mobile terminal responsive to said request for approximate
15 locational information; and

16 determining, from said transmitted location of said reference GPS receiver, the
17 approximate location of the GPS-equipped mobile terminal;

18 wherein the GPS satellite signals comprise one of:

19 Standard Positioning Service (SPS) signals received on an L1 frequency, said
20 L1 frequency being centered at about 1575.42 MHz; or

21 Precise Positioning Service (PPS) signals received on an L2 frequency, said
22 L2 frequency being centered at about 1227.60 MHz.

1 14. The method according to Claim 13, wherein said step of computing the estimated
2 location of said reference GPS receiver further comprises the steps of:

3 recovering respective navigational data signals from each of said demodulated GPS
4 signals from said GPS satellites; and

5 computing, from the respective navigational data signals, the location of said
6 reference GPS receiver.

1 15. The method according to Claim 14, wherein said respective navigational data signals
2 comprise orbital parameters associated with a plurality of GPS satellites, clock correction
3 information and differential correction information.

1 16. The method according to Claim 13, wherein said method further comprises, after said

2 step of computing and before said step of originating, the step of:

3 storing said estimated location of said reference GPS receiver in said wireless
4 telecommunications system.

1 17. The method according to Claim 13, wherein said step of originating said request for
2 approximate locational information from the GPS-equipped mobile terminal to the Base Transceiver
3 Station is responsive to activation of the GPS-equipped mobile terminal.

1 18. The method according to Claim 13, wherein said step of originating said request for
2 approximate locational information from the GPS-equipped mobile terminal to the Base Transceiver
3 Station is responsive to placing a call from the GPS-equipped mobile terminal to one of a set of
4 designated numbers.

1 19. The method according to Claim 18, wherein said one designated number is associated
2 with an emergency service.

1 20. (Amended) In a wireless telecommunications system having a Base Transceiver
2 Station and a mobile terminal equipped with an integrated Global Positioning System (GPS)
3 receiver, the Base Transceiver Station having operational control of the GPS-equipped mobile
4 terminal, a method for determining the approximate position of the GPS-equipped mobile terminal,

5 said method comprising the steps of:

6 demodulating signals received from a multiplicity of GPS satellites at a reference GPS
7 receiver, said reference GPS receiver being connected to the wireless telecommunications system
8 and having a determinate physical location relative to the Base Transceiver Station;

9 computing an estimated location of said reference GPS receiver using said
10 demodulated signals from said GPS satellites;

11 determining whether a GPS signal strength at the GPS-equipped mobile terminal is
12 adequate to permit initialization of the reference GPS receiver associated with the GPS-equipped
13 mobile terminal within a desired response time;

14 if not, originating a request for approximate locational information from the GPS-
15 equipped mobile terminal to the Base Transceiver Station;

16 transmitting said estimated location of said reference GPS receiver from the Base
17 Transceiver Station to the GPS-equipped mobile terminal responsive to said request for approximate
18 locational information; and

19 determining, from said transmitted location of said reference GPS receiver, the
20 approximate location of the GPS-equipped mobile terminal.

1 21. (Amended) In a wireless telecommunications system having a Base Transceiver
2 Station and a mobile terminal equipped with an integrated Global Positioning System (GPS)
3 receiver, the Base Transceiver Station having operational control of the GPS-equipped mobile

4 terminal, a method for determining the approximate position of the GPS-equipped mobile terminal,
5 said method comprising the steps of:

6 demodulating signals received from a multiplicity of GPS satellites at a reference GPS
7 receiver, said reference GPS receiver being connected to the wireless telecommunications system
8 and having a determinate physical location relative to the Base Transceiver Station;

9 computing an estimated location of said reference GPS receiver using said
10 demodulated signals from said GPS satellites;

11 originating a request for approximate locational information from the GPS-equipped
12 mobile terminal to the Base Transceiver Station;

13 transmitting said estimated location of said reference GPS receiver from the Base
14 Transceiver Station to the GPS-equipped mobile terminal responsive to said request for approximate
15 locational information; and

16 determining, from said transmitted location of said reference GPS receiver, the
17 approximate location of the GPS-equipped mobile terminal;

18 wherein said step of transmitting is performed via one of:

19 a Cell Broadcast (CB) Short Message Service (SMS) message over the
20 wireless telecommunications system; or

21 a Broadcast Control Channel (BCCH) of the wireless telecommunications
22 system.

1 23. The method according to Claim 13, wherein the estimated location of said reference
2 GPS receiver is used as the approximate location of the GPS-equipped mobile terminal.

1 24. (Twice Amended) In a wireless telecommunications system having a Base
2 Transceiver Station and a mobile terminal equipped with an integrated Global Positioning System
3 (GPS) receiver, the Base Transceiver Station having operational control of the GPS-equipped mobile
4 terminal, a system for determining the approximate position of the GPS-equipped mobile terminal,
5 said system comprising:

6 demodulation means for demodulating signals received from a multiplicity of GPS
7 satellites at a reference GPS receiver, said reference GPS receiver being connected to the wireless
8 telecommunications system and having a determinate physical location relative to the Base
9 Transceiver Station;

10 signal recovery means for recovering navigational data signals from each of said
11 demodulated signals from said GPS satellites;

12 requesting means for requesting approximate navigational information for the GPS-
13 equipped mobile terminal from the Base Transceiver Station;

14 transmission means for transmitting said recovered navigational data signals to the
15 GPS-equipped mobile terminal responsive to said request for approximate navigational information;
16 and

17 determination means for determining, from said transmitted navigational data signals

18 to determine the approximate location of the GPS-equipped mobile terminal;
19 wherein the GPS satellite signals comprise one of:
20 Standard Positioning Service (SPS) signals received on an L1 frequency, said
21 L1 frequency being centered at about 1575.42 MHz; or
22 Precise Positioning Service (PPS) signals received on an L2 frequency, said
23 L2 frequency being centered at about 1227.60 MHz.

1 27. The system according to Claim 24, wherein said approximate navigational
2 information comprises the identities of a plurality of GPS satellites within ranging distance, the
3 orbital parameters associated with said plurality of GPS satellites, clock correction information and
4 differential correction information associated with said plurality of GPS satellites.

1 28. The system according to Claim 24, wherein said requesting means is responsive to
2 activation of the mobile terminal.

1 29. The system according to Claim 24, wherein said requesting means is responsive to
2 placing a call from the GPS-equipped mobile terminal to one of a set of designated numbers.

1 30. The system according to Claim 24, wherein said one designated number is associated
2 with an emergency service.

1 31. (Amended) In a wireless telecommunications system having a Base Transceiver
2 Station and a mobile terminal equipped with an integrated Global Positioning System (GPS)
3 receiver, the Base Transceiver Station having operational control of the GPS-equipped mobile
4 terminal, a system for determining the approximate position of the GPS-equipped mobile terminal,
5 said system comprising:

6 demodulation means for demodulating signals received from a multiplicity of GPS
7 satellites at a reference GPS receiver, said reference GPS receiver being connected to the wireless
8 telecommunications system and having a determinate physical location relative to the Base
9 Transceiver Station;

10 signal recovery means for recovering navigational data signals from each of said
11 demodulated signals from said GPS satellites;

12 determining means for determining whether GPS signal strength at the GPS-equipped
13 mobile terminal is adequate to permit initialization of the reference GPS receiver associated with the
14 GPS-equipped mobile terminal within a desired response time;

15 requesting means for requesting approximate navigational information for the GPS-
16 equipped mobile terminal from the Base Transceiver Station, if said GPS signal strength is not
17 adequate to permit said initialization;

18 transmission means for transmitting said recovered navigational data signals to the
19 GPS-equipped mobile terminal responsive to said request for approximate navigational information;

20 and

21 determination means for determining, from said transmitted navigational data signals
22 to determine the approximate location of the GPS-equipped mobile terminal.

1 32. (Amended) In a wireless telecommunications system having a Base Transceiver
2 Station and a mobile terminal equipped with an integrated Global Positioning System (GPS)
3 receiver, the Base Transceiver Station having operational control of the GPS-equipped mobile
4 terminal, a system for determining the approximate position of the GPS-equipped mobile terminal,
5 said system comprising:

6 demodulation means for demodulating signals received from a multiplicity of GPS
7 satellites at a reference GPS receiver, said reference GPS receiver being connected to the wireless
8 telecommunications system and having a determinate physical location relative to the Base
9 Transceiver Station;

10 signal recovery means for recovering navigational data signals from each of said
11 demodulated signals from said GPS satellites;

12 requesting means for requesting approximate navigational information for the GPS-
13 equipped mobile terminal from the Base Transceiver Station;

14 transmission means for transmitting said recovered navigational data signals to the
15 GPS-equipped mobile terminal responsive to said request for approximate navigational information;

16 and

17 determination means for determining, from said transmitted navigational data signals
18 to determine the approximate location of the GPS-equipped mobile terminal,
19 wherein said transmission means comprises one of:
20 a Cell Broadcast (CB) Short Message Service (SMS) message over the
21 wireless telecommunications system; or
22 a Broadcast Control Channel (BCCH) of the wireless telecommunications
23 system.

1 34. (Amended) In a wireless telecommunications system having a Base Transceiver
2 Station and a mobile terminal equipped with an integrated Global Positioning System (GPS)
3 receiver, the Base Transceiver Station having operational control of the GPS-equipped mobile
4 terminal, a system for determining the approximate position of the GPS-equipped mobile terminal,
5 said system comprising:
6 demodulation means for demodulating signals received from a multiplicity of GPS
7 satellites at a reference GPS receiver, said reference GPS receiver being connected to the wireless
8 telecommunications system and having a determinate physical location relative to the Base
9 Transceiver Station;
10 signal recovery means for recovering navigational data signals from each of said
11 demodulated signals from said GPS satellites;
12 requesting means for requesting approximate navigational information for the GPS-

equipped mobile terminal from the Base Transceiver Station;
transmission means for transmitting said recovered navigational data signals to the
GPS-equipped mobile terminal responsive to said request for approximate navigational information;
determination means for determining, from said transmitted navigational data signals
to determine the approximate location of the GPS-equipped mobile terminal,
means for periodically transmitting a Timing Advance parameter from the Base
Transceiver Station to the GPS-equipped mobile terminal to dynamically compensate for varying
distances between the GPS-equipped mobile terminal and the Base Transceiver Station; and
means for refining said approximate location of the GPS-equipped mobile terminal
using said Timing Advance parameter.

1 36. (Twice Amended) In a wireless telecommunications system having a Base
2 Transceiver Station and a mobile terminal equipped with an integrated Global Positioning System
3 (GPS) receiver, the Base Transceiver Station having operational control of the GPS-equipped mobile
4 terminal, a system for determining the approximate position of the GPS-equipped mobile terminal,
5 said system comprising:
6 a demodulator for demodulating signals received from a multiplicity of GPS satellites
7 at a reference GPS receiver, said reference GPS receiver being connected to the wireless
8 telecommunications system and having a determinate physical location relative to the Base
9 Transceiver Station;

10 computing means for determining an estimated location of said reference GPS
11 receiver using said demodulated signals from said GPS satellites;

12 requesting means for requesting approximate locational information from the GPS-
13 equipped mobile terminal to the Base Transceiver Station;

14 a transmitter for transmitting the location of said reference GPS receiver from the
15 Base Transceiver Station to the GPS-equipped mobile terminal responsive to said request for said
16 approximate locational information; and

17 determination means for determining the approximate location of the GPS-equipped
18 mobile terminal using said transmitted location of said reference GPS receiver;

19 wherein the GPS satellite signals comprise one of:

20 Standard Positioning Service (SPS) signals received on an L1 frequency, said
21 L1 frequency being centered at about 1575.42 MHz; or

22 Precise Positioning Service (PPS) signals received on an L2 frequency, said
23 L2 frequency being centered at about 1227.60 MHz.

1 37. The system according to Claim 36, wherein said computing means further comprises:
2 decoder means for recovering respective navigational data signals from each of said
3 demodulated signals from said GPS satellites; and
4 computing means for computing the location of said reference GPS receiver from said
5 respective navigational data signals.

1 38. The system according to Claim 37, wherein said respective navigational data signals
2 comprise the orbital parameters associated with a plurality of GPS satellites, clock correction
3 information and differential correction information.

1 39. The system according to Claim 36, wherein said computing means further comprises:
2 storage means for storing said estimated location of said reference GPS receiver in
3 said wireless telecommunications system.

1 40. The system according to Claim 36, wherein said requesting means is responsive to
2 activation of the mobile terminal.

1 41. The system according to Claim 36, wherein said requesting means is responsive to
2 placing a call from the GPS-equipped mobile terminal to one of a set of designated numbers.

1 42. The system according to Claim 41, wherein said one designated number is associated
2 with an emergency service.

1 43. (Amended) In a wireless telecommunications system having a Base Transceiver
2 Station and a mobile terminal equipped with an integrated Global Positioning System (GPS)

3 receiver, the Base Transceiver Station having operational control of the GPS-equipped mobile
4 terminal, a system for determining the approximate position of the GPS-equipped mobile terminal,
5 said system comprising:

6 a demodulator for demodulating signals received from a multiplicity of GPS satellites
7 at a reference GPS receiver, said reference GPS receiver being connected to the wireless
8 telecommunications system and having a determinate physical location relative to the Base
9 Transceiver Station;

10 computing means for determining an estimated location of said reference GPS
11 receiver using said demodulated signals from said GPS satellites;

12 determining means for determining whether a GPS signal strength at the GPS-
13 equipped mobile terminal is adequate to permit initialization of the reference GPS receiver
14 associated with the GPS-equipped mobile terminal within a desired response time;

15 requesting means for requesting approximate locational information from the GPS-
16 equipped mobile terminal to the Base Transceiver Station, if said GPS signal strength is not adequate
17 to permit said initialization;

18 a transmitter for transmitting the location of said reference GPS receiver from the
19 Base Transceiver Station to the GPS-equipped mobile terminal responsive to said request for said
20 approximate locational information; and

21 determination means for determining the approximate location of the GPS-equipped
22 mobile terminal using said transmitted location of said reference GPS receiver.

1 44. (Amended) In a wireless telecommunications system having a Base Transceiver
2 Station and a mobile terminal equipped with an integrated Global Positioning System (GPS)
3 receiver, the Base Transceiver Station having operational control of the GPS-equipped mobile
4 terminal, a system for determining the approximate position of the GPS-equipped mobile terminal,
5 said system comprising:

6 a demodulator for demodulating signals received from a multiplicity of GPS satellites
7 at a reference GPS receiver, said reference GPS receiver being connected to the wireless
8 telecommunications system and having a determinate physical location relative to the Base
9 Transceiver Station;

10 computing means for determining an estimated location of said reference GPS
11 receiver using said demodulated signals from said GPS satellites;

12 requesting means for requesting approximate locational information from the GPS-
13 equipped mobile terminal to the Base Transceiver Station;

14 a transmitter for transmitting the location of said reference GPS receiver from the
15 Base Transceiver Station to the GPS-equipped mobile terminal responsive to said request for said
16 approximate locational information; and

17 determination means for determining the approximate location of the GPS-equipped
18 mobile terminal using said transmitted location of said reference GPS receiver;

19 wherein said transmitter transmits over one of:

20 a Cell Broadcast (CB) Short Message Service (SMS) message over the wireless
21 telecommunications system; or
22 a Broadcast Control Channel (BCCH) of the wireless telecommunications system.

1 46. The system according to Claim 36, wherein the estimated location of said reference
2 GPS receiver is used as the approximate location of the GPS-equipped mobile terminal.